WHAT IS CLAIMED IS:

1. A method of calibrating the half-tone operation of a color marking engine for creating half-tone images formed in bi-level or quad-level dot density formats, comprising the steps of:

running a test pattern on each of one or more color marking engines to provide an output image of a plurality of gray patches formed of first, second and third color toners associated with the color marking engine wherein the gray patches include first, second and third sets of patches reproduced respectively at dot density levels of 25%, 50% and 75% of a maximum dot density and wherein relative color toner levels in the gray patches within each first, second and third set of patches vary a predetermined increment in value above or below the toner levels in a median valued gray patch;

visually selecting an output image of a selected color marking engine having a minimum of color shift associated therewith in accordance with predetermined visual criteria;

determining a correction factor defined for each color at the maximum dot density; and

storing the correction factor as an offset maximum density for images created at the bi-level and quad-level formats.

2. The method of Claim 1, wherein the first, second and third color toners are respectively cyan, magenta and yellow.

3. The method of Claim 1, wherein the first, second and third color toners are respectively red, green and blue.

4. The method of Claim 1, and further comprising a plurality of color marking engines with a single RIP and comprising the step of generating a single RIPed image with the RIP and transferring the single RIPed image to the plurality of color marking engines where at least one of the color marking engines is subjected to the steps of running, selecting, determining and storing.

5. The method of Claim 4, wherein all of the color marking engines are subjected to the steps of running, selecting, determining and storing with the test pattern run through each of the color marking engines separately and the step of visually selecting operable to visually select a desired image from each of the output images from the step of running and the step of storing operable to store offset values for the density level of at least one of the color marking engines in accordance with the offset determined from the output image thereof during the step of visually selecting and with the offset associated with the desired image determined therefrom.

6. The method of Claim 5, wherein the step of visually selecting comprises the steps of:

visually selecting the desired image from one of the output images of a one of the color marking engines in accordance with the predetermined criteria; and

comparing the desired image from the selected color marking engine with the images output by the other color marking engines and selecting a desired image from the other color marking engine outputs comparable to the visually selected image from the selected one of the color marking engines.

7. The method of Claim 5, wherein all of the color marking engines share the same color space.

8. The method of Claim 5, wherein the color marking engines vary in color space with at least one engine having a different color space.

9. The method of Claim 1, wherein the offset values for each of the halftone images represents a known deviation in bit value for substantially all available color changes of a color print device.

10. The method of Claim 1, wherein mid-density images of said half-tone images include images for each offset combination comprised of a plurality of density levels less than 100%.

11. The method of Claim 10, wherein there are at least three density levels of different density levels less than 100%.

12. The method of Claim 1, wherein the correction factor provides an offset from a maximum density value in a bi-level or a quad-level format image.

13. The method of Claim 1, wherein the correction factor provides an offset from a median density value in a bi-level or a quad-level format image.

14. An apparatus for calibrating the half-tone operation of a color marking engine for creating images formed in bi-level or quad-level dot density formats, comprising:

at least one color marking engine operable for creating half-tone images formed in bi-level or quad-level dot density formats;

a test pattern for running on each color marking engine to provide an output image of a plurality of gray patches formed of first, second and third color toners associated with said color marking engine wherein said gray patches include first, second and third sets of patches reproduced respectively at dot density levels of 25%, 50% and 75% of a maximum density and wherein relative color toner levels in said gray patches within each said first, second and third sets of patches vary a predetermined increment in value above or below said toner levels in a median valued gray patch;

an output of each selected color marking engine, which is operable to provide said output image whereby said output image may be visually selected for having a minimum of color shift associated therewith in accordance with predetermined visual criteria; and

a memory for storing a correction factor, determined for each color and defined at a maximum dot density thereof, said correction factor corresponding to an offset value from said maximum dot density for output images created at said bi-level and quad-level formats.

15. The apparatus of Claim 14, wherein said first, second and third color toners are respectively cyan, magenta and yellow.

16. The apparatus of Claim 14, wherein said first, second and third color toners are respectively red, green and blue.

17. The apparatus of Claim 14, wherein further comprising a plurality of color marking engines in a system with a single RIP operable to generate and transfer a single RIPed image to said plurality of color marking engines wherein said correction factor is determined and stored for each color and defined for at least one of said color marking engines according to said test pattern run thereon to produce an output from which an output image may be visually selected for having a minimum of color shift associated therewith in accordance with predetermined visual criteria.

18. The apparatus of Claim 17, wherein said test pattern is separately run in all of said color marking engines and said correction factors for said color marking engines are stored respectively as offset values relative to a density level of at least one of said color marking engines in accordance with an offset, determined from said output image of said at least one color marking engine during visual selection of said output image from among respective output images of each said color marking engine, said offset associated with a desired image determined therefrom.

19. The apparatus of Claim 18, wherein:

said predetermined criteria are used in visually selecting said desired image from a one of said output images of said at least one color marking engine; and

said desired image from said selected at least one color marking engine is compared with output images output by other of said plurality of color marking engines by selecting a desired output image from said other color marking engine outputs comparable to said visually selected desired image of said at least one of said color marking engines.

20. The apparatus of Claim 18, wherein all of the color marking engines share the same color space.